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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/738,312

12/18/2000

Byeong Gi Lee

K-232

2254

7590

07/02/2004

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EXAMINER

TSE, YOUNG TOI

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 07/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/738,312

**Applicant(s)**

LEE ET AL.

**Examiner**

YOUNG T. TSE

**Art Unit**

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-22 is/are rejected.
- 7) ☒ Claim(s) 1 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected to because the word "sample" labeled in block element 20 of FIG.3A is misspelled. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: the reference signs 60-69 shown in Figure 1 and the reference signs 31a, 31b and 202-205 shown in Figure 4B are not mentioned in the specification. Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The disclosure is objected to because of the following informalities: on page 15, line 15, "modulating" appears to read – demodulating --; on page 18, line 19, "section for" should be – section 51 for --; the specification fails to describe each of the block elements and the operation of Figures 1 and 4B. Appropriate correction is required.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

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requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Objections***

6. Claims 1-22 are objected to because of the following informalities:

In the preamble of claims 1, 4, 8, and 20-22, "a DPSK-based" should be – a differential phase shift keying (DPSK) based --.

In claim 1 (line 8), claim 8 (lines 4-5), claim 20 (line 5), and claim 21 (line 10), "differential phase shift keying (DPSK) symbols" should be – DPSK symbols --.

In claim 3, line 5, "the DPSK" should be – DPSK --; line 6, "the PSK symbol" should be – the PSK symbols --; line 8, "igniter sequence generator " should be – first igniter sequence generator --; and line 11, "a first igniter sequence generator " should be – the at lease one first igniter sequence generator --.

In claim 4, line 5, "modulate" appears to read – demodulate – (see line 9). Also see claims 12 (line 4) and claim 22 (line 5).

In claim 5, line 4, the word "received" should be deleted.

In claim 11, line 4, " $X_n$ ," should be –  $X_n$  -- and lines 5-6, the phrases "the DPSK", "the phase", "symbol time" and "the PSK symbol" should be – DPSK --, -- a phase, --, -- symbol time, --, and – the PSK symbols --, respectively.

In claim 13, line 5, "a state signal" should be – the state signal --.

In claim 17, line 9, "Walsh code" should be – Walsh codes --.

In claim 19, lines 4-6; the phrases "the respective complex symbols", "the DPSK", "the phase", "symbol time" and "the PSK symbol" should be -- respective complex symbols --, -- DPSK --, -- a phase, --, -- symbol time, --, and -- the PSK symbols --, respectively.

In line 2 of both claims 21 and 22, "(D2SA)" should be -- ( $D^2$ SA) --.

Wherein the dependent claims 2, 6-7, 9-10, 12, 14-16, and 18 are depended upon claims 1, 4, and 8.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 2-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2 (line 5), claim 3 (line 8), claim 4 (lines 8 and 10), claim 5 (lines 3-5 and 7), claim 6 (lines 2-3, 5-6, 12, 15, and 17), claim 8 (lines 11-14), claim 10 (line 2), claim 11 (lines 8 and 10), claim 12 (lines 5-6 and 9), claim 13 (lines 3-6 and 8), claim 15 (lines 3, 5-6, and 12), and claim 17 (lines 4, and 6), Applicant is requested to use consistent term(s) for the first or second main generator(s) or the first or second igniter generator(s) in the transmitter and the receiver for generating the at least first or second main sequence(s) or the at least first or second igniter sequence(s).

In claim 2 (lines 6 and 8), claim 4 (lines 9-10, 11, and 16), claim 8 (lines 6-7, 7-8, 11-12, 12, 13, and 15), claim 9 (line 4), claim 10 (Lines 6 and 8), claim 12 (lines 3, 5-6, 6, 8, 9, 9-10, 12-13, and 15), claim 16 (line 2), claim 17 (lines 7 and 11), claim 18 (line 3), claim 20 (lines 6, 7-8, 9, and 10-11), claim 21 (lines 7, 11, and 11-12), and claim 22 (lines 9, 10, 13, and 15), the phrases “the input user data”, “the spread user data”, “the synchronization timing”, “user data dispreading and descrambling”, “the constellation pre-rotated user data”, “its respective sequence generators”, “the sequence generators”, “the demodulated state sample values”, “user data”, “the input state signal”, “the transmitter and receiver sequence generators”, “its sequence generator”, “the main sequence”, “the sequence generator”, “the first main sequence”, “the quadrature Walsh codes”, “the data symbol correlation section”, “the DPSK-modulated symbol values”, “the respective transmitter and receiver sequence generators”, “the constellation”, “the at least one igniter sequence”, and “the spread symbols” all lack antecedent basis.

In claim 4, lines 9 and 10, Applicant is requested to clarify the difference between “at least one main sequences” and “a main sequence”. Also see claims 8 (lines 13 and 14).

Wherein claims 7, 14, and 19 are depended upon claims 4 and 8.

***Allowable Subject Matter***

9. Claim 1 would be allowable if rewritten or amended to overcome the objection(s) set forth in this Office action.

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10. Claims 2-22 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

11. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to show or suggest that a spread spectrum transmitter comprises a distributed sample acquisition spreading section for performing a synchronization of main sequences before transmitting state samples to a sample spreading section for performing the convergence of the state samples to generate a state signal or a spread spectrum receiver comprises a sample despreading section for performing the convergence of the state signal transmitted from a transmitter to generate state samples and a distributed sample acquisition despreading section for performing a synchronization of main sequences of the state samples to generate a synchronization signal.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

References Kim et al., Harrison et al., Yamaguchi, and Lee et al. are related to spread spectrum transmitters and receivers using both serial and parallel code generators for generating serial or parallel code sequences to a spreader of the transmitters and a despreaders of the receivers for performing code acquisition synchronization and code tracking synchronization of the sequences.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Young Tse** whose telephone number is **(703) 305-4736**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Stephen Chin**, can be reached at **(703) 305-4714**.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

P.O. Box 1450

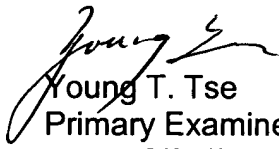
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**or faxed to:**

**(703) 872-9306**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

  
Young T. Tse  
Primary Examiner  
6/27/04